Amendments

In the Specification:

Please replace paragraphs [0035], [0036], [0037], [0040], and [0041] with the following:

[0035] The results of ~~the~~ a stability study (TABLES 1 and 2) show that the release of SA at 4° C leads to a decrease in recovery in a TSH assay (that is, an assay for thyroid stimulating hormone). As can be seen from Table 1, by Day 35 there is up to a 25% decrease in recovery of the calibrators. However, when ~~When~~ the SA beads are centrifuged ("washed") after the 35 days to remove the free SA, the ~~original~~ quantitation obtained on Day 0 is obtained. The SA is therefore the cause of the apparent instability. As can be seen from Table 2, in ~~In~~ the presence of scavenger beads, there is a slight initial increase due to the scavenger beads binding a small amount of SA that is free at the beginning of the study. After that initial period, the recovery remains constant as the scavenger beads maintain the amount of free SA close to zero.

[0036] In another exemplary embodiment, the scavenger substrate comprised a non-porous material, for example a surface, modified in a way that SA has access to the surface, but modified beads do not have access to the surface. A material, having indentations, such as crevices and other unpatterned design may also be used. Alternatively, or in conjunction with the other textures, grooves may be used to function in a manner similar to the porous substrate Further, the substrate may be of a brush-like configuration, whereby the dissociated free species may migrate past the brush-like appendages and bind to the interior of the substrate. The solid-phase material, due to size difference would not enter into the binding area of the brush-like substrate.

[0037] A further embodiment may consist of a non-porous substrate having the ability to bind the free, dissociated species due to ~~its~~ the dissociated species' weight, diffusion rate and other characteristics ~~of the dissociated molecule~~, not apparent in the solid-phase bound species.

[0040] The biotin-modified beads were added to the SA reagent at different concentrations. LOCI™ TSH and FT3 ("Free T3") assays were chosen as model assays. The SA bead concentrations in the TSH and FT3 assays were 1400 μg/mL and 400 μg/mL, respectively. The biotin-modified sensitizer beads were added in concentrations of 1% and 5% (TSH: 14 μg/mL, 70 μg/mL; FT3: 4 μg/mL, 20 μg/mL) of the SA bead concentration. The mixtures were incubated overnight at 4°C. The TSH and FT3 calibrators were measured and compared using the different sensitizer bead suspensions in the respective immunoassay.

[0041] The results (TABLES 5 and 6) showed that, in the presence of the biotin-modified sensitizer beads, there was a substantial increase in the immunoassay response signal while background noise for TSH remained essentially unchanged. ~~This~~ This increase in the immunoassay response signal with the essentially unchanged background noise indicates the formation of signal generating networks in addition to the successful scavenging of free species. The amplified signal strength was primarily the result of the signal generating networks. Good reproducibility of signals over the course of a stability study was primarily the result of the scavenging properties of the biotin-modified sensitizer beads.